METHOD FOR DERIVING THE BENCHMARK PROGRAM FOR ESTIMATING THE MAXIMUM POWER CONSUMED IN A MICROPROCESSOR

5   ABSTRACT

In one embodiment, for an electronic architecture with a functional constitution performing a number of functions characterized by separate stages performing subfunctions, a method of deriving a benchmark program for estimating the maximum power consumption by modeling a functional model of the architecture, compiling the benchmark program into a corresponding instruction

10   stream, valuating power weights for each stage of each function of each constituent, inserting the power weights, running the model in a maximum power consumption mode, and summarizing power consumption. In one embodiment, the benchmark program is applied by specifying a design analysis to be

15   performed, selecting a function, designating a stages performing that function, removing a set of instruction set architecture instructions corresponding the designated stage, emulating the constituent subfunction corresponding to the stages designated stage, and summarizing. In one embodiment, the model is written in SystemC. In one embodiment, a compiler used is a PERL script.